First report of rust caused by Pucciniastrum circaeae on Fuchsia x Hybrida in Italy.

First Report of Rust Caused by *Pucciniastrum circaeae* on *Fuchsia x hybrida* in Italy. A. Garibaldi, G. Gilardi, G. Ortu and M. L. Gullino, Centre of Competence for the Innovation in the Agro-Environmental Sector, (AGROINNOVA) Via Leonardo da Vinci 44, 10095 Grugliasco, Italy.

Fuchsia is a genus of flowering plants native to South America and New Zealand, belonging to the family Onagraceae. In September 2011, potted plants of *Fuchsia* x *hybrida* two-year-old in a garden located near Biella (northern Italy) showed signs and symptoms of a previously unknown disease. Typically, infected plants showed leaf chlorosis followed by the appearance of necrosis on the adaxial leaf surfaces, while the abaxial surfaces showed orange uredosores irregularly distributed. As the disease progressed, infected leaves turned yellow and wilted. Affected plants showed a progressive phylloptosis and also flowering was negatively affected. Uredospores from affected tissues were globose, yellow-to orange, measuring 14.55 to 25.89 (average 19.6) µm. The morphological characteristics of the fungus corresponded to those of the genus *Pucciniastrum*. DNA was extracted using Terra PCR Direct Polymerase Mix (Clonte, CH) and PCR carried out using ITS 1/ ITS 4 primer (4). A 318 base pair PCR product was sequenced and a BLASTn search (1) confirmed that the sequence corresponded to *Pucciniastrum circaeae*. The nucleotide sequence has been assigned the GenBank Accession number JQ029688.

Pathogenicity tests were performed by spraying leaves of healthy one-year-old potted *Fuchsia* x *hybrida* plants with an aqueous $1x10^3$ uredospores/ml suspension. The inoculum was obtained from infected leaves. Plants sprayed only with water served as controls. Three plants were used for each treatment. Plants were covered with plastic bags for 4 days after inoculation and maintained in the open at temperatures ranging between 18 and 25 °C. Lesions developed on

leaves 20 days after inoculation with the uredospore suspension, whereas control plants remained healthy. The pathogenicity test was carried out twice. The presence of *Pucciniastrum fuchsiae*, later identified as *P. epilobii* was repeatedly reported in US (3). Recently, this species was reported to form a single group with *P. circaeae* (3). This is, to our knowledge, the first report of *P. circaeae on Fuchsia* x *hybrida* in Italy.

References: (1) S.F. Altschul *et al*. Nucleic Acids Res., 25:3389, 1997 (2) L.B. Loring, L.F. Roth Plant Diseaase Reporter, 48:99, 1964. (3) Y.M. Liang *et al*. Mycoscience 47: 137, 2006. (4) T. J. White *et al*. In: PCR Protocols: A Guide to Methods and Applications (M. A. Innis *et al*., eds.) Academic Press, San Diego, 1990.